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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,725	10/30/2001	Shawn Stapleton	BWD:2353.005	2647
23400	7590	11/03/2003		
POSZ & BETHARDS, PLC 11250 ROGER BACON DRIVE SUITE 10 RESTON, VA 20190			EXAMINER CHOE, HENRY	
			ART UNIT 2817	PAPER NUMBER

DATE MAILED: 11/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/003,725	STAPLETON, SHAWN	
	Examiner	Art Unit	
	Henry K Choe	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-83 is/are pending in the application.
- 4a) Of the above claim(s) 39-76 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 11, 16, 17, 21-25, 28, 33-37 and 77-83 is/are rejected.
- 7) ☒ Claim(s) 5, 10, 12-15, 18-20, 26, 27, 29-32 and 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-9, 11, 16, 17, 21-25, 28, 33-37 and 77-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melanson (Fig. 2a).

Regarding claims 1-3, 6-9, 11, 21, 28 and 33-37, Melanson (Fig. 2a) discloses an amplifier circuit comprising a delta sigma modulator (102) which is connected to receive an input signal (Input) and produces a bi-level modulation signal (output of 102), a switching mode power amplifier (106) which is driven by the bi-level modulation signal (output of 102) and having an output (output of 106), and a linearizer (220, 214, 212) which is connected to supply a corrective signal (RTF1, RTF2) at a location prior to the switching mode power amplifier (106). As described above, Melanson (Fig. 2a) discloses all the limitations in the claims except for that the switching mode power amplifier provides a RF signal. This limitation is obvious based on the intended use of the invention.

Regarding claim 4, Melanson (Fig. 2a) further discloses a tunable output filter (110) which is coupled to the output of the amplifier (106).

Regarding claim 25, the filter (110) in Fig. 2a of Melanson (Fig. 2a) is functionally equivalent to the claimed harmonic filter.

Regarding claims 16, 17 and 22-24, Melanson (Fig. 2a) discloses all the limitations in the claims except for that the passband at a frequency in excess of 300KHz and 800MHz, and the switching mode power amplifier is located within 2 meters from the antenna and the delta sigma modulator is located more than 5 meters from the antenna. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the specific frequency of the passband and specific distances between the switching mode power amplifier and antenna, since they are based on the routine experimentation to obtain the optimum operating parameters.

Allowable Subject Matter

Claims 5, 10, 12-15, 18-20, 26, 27, 29-32 and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for Allowance

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 5, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: digital to analog converter and its functional limitations. Regarding claim 10, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the transmission medium includes an optical transmission medium and the first coupling circuit includes an electro optical coupler. Regarding claim 12, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the transmission medium includes a microwave radio link and the first coupling circuit includes a high speed digital modulator and the second coupling circuit includes a high speed digital demodulator. Regarding claim 13, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the transmission medium includes a path through signal carriers and the first coupling circuit includes a high speed digital modulator and the second coupling circuit includes a high speed digital demodulator. Regarding claim 14, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the transmission medium includes a coaxial cable. Regarding claim 15, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the extended interface is bidirectional. Regarding claim 18, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the linearizer circuit generates the corrective signal and the feedback signal is carried on the extended interface. Regarding claim 28, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the switching mode power amplifier includes an electrically variable voltage bias power supply and a mechanism connected to vary the voltage of the bias power supply. Regarding claim 29, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the switching mode power amplifier includes a plurality

of parallel connected amplification circuits and a mechanism connected to adjust the output power. Regarding claim 31, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: a mechanism and its functional limitations. Regarding claim 37, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the power supply includes an electrical storage cell charge by the wind generator and DC/DC converter.

Response to Arguments

Applicant's arguments with respect to claims 1-4, 6-9, 11, 16, 17, 21-25, 28, 33-37 and 77-83 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

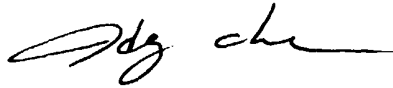
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Choe whose telephone number is (703) 305-0576.

A handwritten signature in black ink, appearing to read "Henry Choe", with a stylized, cursive script.

HENRY CHOE
PRIMARY EXAMINER